

A1  
FOR A WEARABLE PERSONAL COMPUTER” and filed April 2, 2000. These applications are both hereby incorporated by reference in their entirety. In addition, this application claims the benefit of provisional U.S. Patent Application No. 60/194,002, filed April 2, 2000 and entitled “AUTOMATED SELECTION OF UNSOLICITED INFORMATION BASED ON A USER’S CONTEXT.”

After line 2 of page 6, please add the following:

Figure 29 illustrates a possible architecture of the embodiment of the process to filter advertisements based on the user’s context before presenting them to the user.

A2  
Figure 30 illustrates a possible architecture of the money-flow of the embodiment of the process to filter advertisements based on the user’s context.

Figure 31 illustrates a Characterization Module provider receiving payment from an Advertiser.

Figure 32 illustrates constructing a filter process as a composition of filters.

✓  
Replace the paragraph on page 11 beginning at line 4 with the following:

A3  
In some embodiments, it may also be useful to store attribute value information in a more permanent fashion than a temporary cache. For example, it may be useful for the characterization module to keep a log of all attribute values received and sent, or of all interactions with context clients and context servers. Alternately, it may be useful to record the current values of some or all of the attributes and attribute instances at the same time, such as to capture a complete model of the current context. Storing attribute value information is discussed in greater detail in both U.S. Patent Application No. 09/464,659, filed December 15, 1999 and entitled “STORING AND RECALLING INFORMATION TO AUGMENT HUMAN MEMORIES”, and U.S. Patent Application No. 09/541,326, filed April 2, 2000 and entitled “LOGGING AND ANALYZING COMPUTER USER’S DATA,” which are both hereby incorporated by reference.

AB

Other uses of attribute value information are described in provisional U.S. Patent Application No. 60/194,000, filed April 2, 2000 and entitled "SOLICITING PRODUCT INFORMATION BASED ON THE USER'S CONTEXT," in provisional U.S. Patent Application No. 60/194,002, filed April 2, 2000 and entitled "AUTOMATED SELECTION OF UNSOLICITED INFORMATION BASED ON A USER'S CONTEXT," and in provisional U.S. Patent Application No. 60/194,758, filed April 2, 2000 and entitled "CREATING PORTALS BASED ON THE USER'S CONTEXT," each of which are hereby incorporated by reference. For example, uses of attribute value information include the automated selection of unsolicited information based on a user's context, as discussed in greater detail below.

The user's context can limit their ability and desire to receive and process advertising. When the user is not interested in receiving an unsolicited message (for example, an advertisement), or the user is unable to receive a specific advertisement due to being busy, or the user is unable to accept a specific advertisement due to the user's context (such as the user's current information presentation system configuration), a method of filtering the many available advertisements is needed, both for the user and for the advertising company. The user may want to experience (e.g. see, hear, smell, etc.) the advertisement when the user's conditions (e.g. mental, physical, etc.) better match the advertisement.

The ability to filter advertisements by the user's context includes the user's situation (physical affordances, cognitive affordances, social affordances) the user's preference (whether specified, based on a particular theme, context attributes inferred and created by the context itself, the user's platform capability (e.g. input/output availability, connectivity), the user's affect or disposition, the user's safety and ability to experience the advertisement, the current goals of the user (contained in the user context), and the surrounding user context which includes advertisers' products, services or other such promotions.

An advertisement can be constructed with only the product or service information included. An example would be a typical radio advertisement.

For an automated process to determine if this type of advertisement was appropriate to the specific context of a specific consumer, it could be parsed by a speech recognition module, and analyzed for the product name, type, cost, etc. In this way information about the advertisement that allows it to be characterized can be compared to the user's situation and preferences to determine if and when it should be presented to them.

Information about the advertisement, its "meta-information," can be supplied by the advertiser or other agency for the purpose of working with a Characterization Module as described above. Further, this meta-information can describe the most appropriate use of the advertisement by characterizing the intended or preferred message recipients by including target context attribute value ranges.

AB By matching the advertisement's content with the user's context, the user can be presented only advertisements that are appropriate and desirable, and the advertiser has gained the ability to reliably target potential consumers of their product.

The matching can be performed as a series of filters, which may be remote or local to the user's computer.

One example is presenting a cooling drink advertisement to a user who is thirsty. The user's context can determine when to present this advertisement. The context can contain attributes that have been determined to define when the user is thirsty. In this example, the user's temperature, the surrounding temperature and humidity, and the user's past behaviors can all add to the context used to determine whether the user is thirsty and whether to present the advertisement. A filter, which may be the result of compositing multiple filters, can utilize the user's context to control the presentation of the advertisement.

One example of delayed advertising based on the user's context involves the context filters recognizing the user is not able to give attention to the advertisement; such as when the user is driving a car. The filters recognize this context attribute's value and can present the advertisement when the user's

context has changed such that the user is more able and agreeable to receive the advertisement.

Figure 29 illustrates a possible architecture of the embodiment of the process to filter advertisements based on the user's context before presenting them to the user. One skilled in the art of computer software design realizes that the Filter or Filters 2900 could be designed in multiple ways. Some, but not all, examples include creating the Filters as a separate entity and possibly directly associated with the Characterization Module (CM) 2910 as shown, or the Filters could receive the Unsolicited Messages 2920 before they arrive at the CM, or the Filters could be embedded in some other system as demonstrated in Figure 30, or any combination of these. Filters can be general or very specific. For example, a filter can accept advertisements from soft-drink advertisers, while another blocks diet soft-drink advertisements. Or, more specifically, a filter may accept advertisements for a specific cola, but not ever from a competitive cola product. For example, if the user only drinks Coca-Cola, an advertiser may pay for access to users who never purchase Pepsi, and that could be a specific filter. That filter may specify an incentive level that can then present the Pepsi advertisement to the user who only drinks Coke. That incentive level can vary for different users of this invention. The advertising company may provide coupons to the user, or may even pay the user for simply viewing the Pepsi advertisement.

Figure 30 illustrates a possible architecture of the money-flow of the embodiment of the process to filter advertisements based on the user's context. The user's computer can embody the user-defined interests along with the CM models based on the user's context information. When advertisers look for an interested consumer, they can send a message containing the advertisement, perhaps including some metadata. The advertiser may also be willing to pay for consumer access. In one embodiment, the CM provider can maintain a registry, which maintains interest-rules on behalf of the user (a compositing of their desires, preferences, past behaviors, presentation surfaces capabilities, etc. and logic to relate these to themselves, the messages, and the registry) and compare them to

received messages (such as advertisements). These two characterizations can be compared to determine if any of the messages should be forwarded to the user. When a message is determined to be potentially of interest to the user, it is delivered to the user's system. The user's context (which may include further rules regarding items of interest or other message receipt preferences), and alternatively the user himself, decides if the message should be presented and experienced. If the message is experienced, both, or one of, the system provider, or the user, may receive payment from the advertiser. If the advertiser sells something to the user, the system provider may also receive payment.

Figure 31 illustrates a possible architecture of the revenue-flow of the embodiment of the process to filter advertisements based on the user's context, focusing on the money-flow to Tangis.

Figure 32 illustrates constructing a filter process as a composition of filters as a method to view and modify the logic and consequences of filters.

Advertising meta-data may or may not contain the rules or embedded filters. Advertising messages may contain only attributes that relate to the user's context, and then the user gets to control the filter rules use an form of interest repository, or registry, related to the user, which advertisers access to find audience and for potential customers. The system supplier-maintained registry, described in Figure 30, can also provide a way for advertisers and advertisements to group themselves, e.g. goods & services.

One embodiment of this filtering process involves multiple-tier filtering. The first involves determining if the user's context has the attributes that the advertisement is trying to match, while it searches for possible consumers. The second involves the determination of whether to pass the rules and deliver the advertisement to the user.

One aspect of filtering advertisements is to delay the presentation of a matching advertisement until the user's filter specified, or until the user context matches the presentation requirements of the advertisement. An example of the user context matching the presentation of an advertisement is when the user is not